



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/658,725

09/09/2003

Ed H. Frank

14180US02

2800

23446 7590 05/24/2007
MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER

GOETZE, SIMON A

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

05/24/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/658,725

Applicant(s)

FRANK ET AL.

Examiner

Simon A. Goetze

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This action is in response to Applicant's response filed March 12, 2007. Claims 1-25 are still pending. **This action is made FINAL.**

Specification

The objection to the specification has been withdrawn, as it has been corrected by the present amendment.

Claim Objections

The objection to claim 12 has been withdrawn, as it has been corrected by the present amendment.

Response to Arguments

Applicant's arguments filed March 12, 2007 have been fully considered but they are not persuasive.

The argued features (of independent claims 1, 9, and 17), i.e., a method, machine-readable storage, having stored thereon a computer program having at least one code section, and a system for bandwidth management in a hybrid wired/wireless local area network, comprising receiving a first messaging protocol message for establishing a communication session; determining an available communication bandwidth for the network; allocating bandwidth; and

Art Unit: 2617

notifying an access point of the allocated bandwidth, reads upon Choksi as modified by Sundar et al. as follows.

Choksi is discussing a method and a system for managing real-time bandwidth in a wireless network. Choksi discusses the bandwidth allocation controller receiving a call admission request from the network. Therefore disclosing the limitation of “receiving from at least one of a first access point and a first switch, at least a first messaging protocol message for establishing a communication session.” Choksi further discusses processing the call admission request by verifying if there is available bandwidth to create the communication, and that the radio link can be an 802.11 based WLAN link. Therefore discloses “responsive to said first messaging protocol message, determining an available communication bandwidth for at least a portion of the hybrid wired/wireless local area network.” Choksi then discusses making the decision to allow a call, and allocating the bandwidth necessary to make the connection. Therefore disclosing the limitation of “allocating bandwidth to accommodate said communication session.” It is understood in the art, that once a connection is allowed, the access point would be notified, but Choksi fails to specifically disclose this limitation. Choksi was modified by Sundar et al. to discuss this communication. Sundar et al. discusses notifying an access point that bandwidth has been allocated. Therefore disclosing the limitation of “notifying said first access point of said allocated bandwidth using at least a second messaging protocol message.”

Art Unit: 2617

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. **Claims 1-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choksi (US Patent 6,978,144)** in view of **Sundar et al. (US Patent Application Publication 2003/0134650)**.

Art Unit: 2617

Consider **claim 1**, Choksi discloses a method for providing bandwidth management in a hybrid wired/wireless local area network (*Abstract*), the method comprising:

receiving from at least one of a first access point and a first switch, at least a first messaging protocol message for establishing a communication session (*call admission request is submitted – Column 7, Lines 5-15 and 33-41*);

responsive to said first messaging protocol message, determining an available communication bandwidth for at least a portion of the hybrid wired/wireless local area network (*current bandwidth usage plus the requested bandwidth must not exceed a threshold – Column 7, Lines 61-67; Column 8, Lines 1-5; radio link can be an 802.11 based WLAN Column 3, Line 35*); and

allocating bandwidth to accommodate said communication session (*read as the request is allowed – Column 8, lines 1-5*).

However, Choksi discloses the allocation of resources and allowance of call admission requests, but fails to specifically disclose the notification to the first access point of the communication system to commence the connection.

In related prior art, Sundar et al. discloses a call connection management system for hybrid wired/wireless (WWAN and WLAN) networks which performs call setup functions such as channel assignment based upon requests from users. During the call connection setup, initiated by, for example, a handoff scenario, the serving BSC informs the desired BSC of the desire to handoff, and once the operation is the complete, acknowledgements are returned to the initiating parties (*Figure 12 – Page 6, Paragraphs 0074-0075*).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Sundar et al. with those of Choksi in order to provide users with necessary bandwidth to complete their communications and control a network so that it's bandwidth capabilities are not exceeded.

Consider **claim 9**, Choksi discloses a machine-readable storage, having stored thereon a computer program having at least one code section for providing bandwidth management in a hybrid wired/wireless local area network (*Abstract*), the at least one code section executable by a machine for causing the machine to perform the steps comprising:

receiving from at least one of a first access point and a first switch, at least a first messaging protocol message for establishing a communication session (*call admission request is submitted – Column 7, Lines 5-15 and 33-41*);

responsive to said first messaging protocol message, determining an available communication bandwidth for at least a portion of the hybrid wired/wireless local area network (*current bandwidth usage plus the requested bandwidth must not exceed a threshold – Column 7, Lines 61-67; Column 8, Lines 1-5; radio link can be an 802.11 based WLAN Column 3, Line 35*); and

allocating bandwidth to accommodate said communication session (*read as the request is allowed – Column 8, lines 1-5*).

However, Choksi discloses the allocation of resources and allowance of call admission requests, but fails to specifically disclose the notification to the first access point of the communication system to commence the connection.

In related prior art, Sundar et al. discloses a call connection management system for hybrid wired/wireless (WWAN and WLAN) networks which performs call setup functions such as channel assignment based upon requests from users. During the call connection setup, initiated by, for example, a handoff scenario, the serving BSC informs the desired BSC of the desire to handoff, and once the operation is the complete, acknowledgements are returned to the initiating parties (*Figure 12 – Page 6, Paragraphs 0074-0075*).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Sundar et al. with those of Choksi in order to provide users with necessary bandwidth to complete their communications and control a network so that it's bandwidth capabilities are not exceeded.

Consider **claim 17**, Choksi discloses a system for providing bandwidth management in a hybrid wired/wireless local area network (*Abstract*), the at least one code section executable by a machine for causing the machine to perform the steps comprising:

a receiver adapted to receive from at least one of a first access point and a first switch, at least a first messaging protocol message for establishing a communication session (*call admission request is submitted – Column 7, Lines 5-15 and 33-41*);

at least one controller adapted to determine an available communication bandwidth for at least a portion of the hybrid wired/wireless local area network (*current bandwidth usage plus the requested bandwidth must not exceed a threshold – Column 7, Lines 61-67; Column 8, Lines 1-5; radio link can be an 802.11 based WLAN Column 3, Line 35*); and

said at least one controller adapted to allocate bandwidth to accommodate said communication session (*read as the request is allowed – Column 8, lines 1-5*).

However, Choksi discloses the allocation of resources and allowance of call admission requests, but fails to specifically disclose the notification to the first access point of the communication system to commence the connection.

In related prior art, Sundar et al. discloses a call connection management system for hybrid wired/wireless (WWAN and WLAN) networks which performs call setup functions such as channel assignment based upon requests from users. During the call connection setup, initiated by, for example, a handoff scenario, the serving BSC informs the desired BSC of the desire to handoff, and once the operation is the complete, acknowledgements are returned to the initiating parties (*Figure 12 – Page 6, Paragraphs 0074-0075*).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Sundar et al. with those of Choksi in order to provide users with necessary bandwidth to complete their communications and control a network so that it's bandwidth capabilities are not exceeded.

Consider **claim 2**, as applied to claim 1 above, Choksi as modified by Sundar et al. further discloses receiving said at least a first messaging protocol message by at least one of a second switch and a second access point (*Sundar et al. – the serving WLAN MSC informs the desired WWAN BSC of the handoff requests – Figure 12, Steps 1204-1210 – Page 6, Paragraph 0074*).

Consider **claim 3**, as applied to claim 2 above, Choksi as modified by Sundar et al. further discloses requesting bandwidth usage information from at least one of said first access

Art Unit: 2617

point and said first switch using said at least a first messaging protocol (*Choksi – call admission request are single bandwidth requests – Column 7, Lines 42-48*).

Consider **claim 4**, as applied to claim 3 above, Choksi as modified by Sundar et al. further discloses de-allocating said allocated bandwidth using at least a third messaging protocol message subsequent to termination of said established communication session (*Sundar et al. – once the mobile has handed off to the WWAN, the WWAN notifies the WLAN MSC that it may clear the resources previously allocated for the mobile – Figure 12, steps 1226-1228 – Page 6, Paragraph 0074*).

Consider **claim 5**, as applied to claim 4 above, Choksi as modified by Sundar et al. further discloses sending said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and said first access point (*Sundar et al. – once the mobile has handed off to the WWAN, the WWAN notifies the WLAN MSC that it may clear the resources previously allocated for the mobile – Figure 12, steps 1226-1228 – Page 6, Paragraph 0074*).

Consider **claim 6**, as applied to claim 5 above, Choksi as modified by Sundar et al. further discloses receiving bandwidth information from at least one of a quality of service management process, a load balancing management process, a session control process, and a network management process using at least a fourth messaging protocol message (*Choksi – QoS policy is retrieved during the bandwidth allocation request – Column 6, Lines 60-67 and Column 7, Lines 5-15*).

Consider **claim 7**, as applied to claim 6 above, Choksi as modified by Sundar et al. further discloses requesting said bandwidth information from said quality of service management

Art Unit: 2617

process, said load balancing management process, said session control process, and said network management process using a fifth messaging protocol message (*Choksi – QoS policy is retrieved during the bandwidth allocation request – Column 6, Lines 60-67 and Column 7, Lines 5-15*).

Consider **claim 8**, as applied to claim 7 above, Choksi as modified by Sundar et al. further discloses that said first, second, third, fourth, and fifth messaging protocol messages each comprise at least one message selected from the group consisting of an access point status message, access point configuration message, a switch status message, a switch configuration message, a client status message, and a device discovery message (*Choksi – the messages request the status of the access points, hence gaining their status and configuration – Column 7, Lines 42-47; Sundar et al. – device discovery is used to determine available networks – Page 4, Paragraphs 0055-0057; Sundar et al. – BSCs determine statuses of access points to perform call connections – Page 6, Paragraph 0074*).

Consider **claim 10**, as applied to claim 9 above, Choksi as modified by Sundar et al. further discloses receiving said at least a first messaging protocol message by at least one of a second switch and a second access point (*Sundar et al. – the serving WLAN MSC informs the desired WWAN BSC of the handoff requests – Figure 12, Steps 1204-1210 – Page 6, Paragraph 0074*).

Consider **claim 11**, as applied to claim 10 above, Choksi as modified by Sundar et al. further discloses requesting bandwidth usage information from at least one of said first access point and said first switch using said at least a first messaging protocol (*Choksi – call admission request are single bandwidth requests – Column 7, Lines 42-48*).

Consider **claim 12**, as applied to claim 11 above, Choksi as modified by Sundar et al. further discloses de-allocating said allocated bandwidth using at least a third messaging protocol message subsequent to termination of said established communication session (*Sundar et al. – once the mobile has handed off to the WWAN, the WWAN notifies the WLAN MSC that it may clear the resources previously allocated for the mobile – Figure 12, steps 1226-1228 – Page 6, Paragraph 0074*).

Consider **claim 13**, as applied to claim 12 above, Choksi as modified by Sundar et al. further discloses sending said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and said first access point (*Sundar et al. – once the mobile has handed off to the WWAN, the WWAN notifies the WLAN MSC that it may clear the resources previously allocated for the mobile – Figure 12, steps 1226-1228 – Page 6, Paragraph 0074*).

Consider **claim 14**, as applied to claim 13 above, Choksi as modified by Sundar et al. further discloses receiving bandwidth information from at least one of a quality of service management process, a load balancing management process, a session control process, and a network management process using at least a fourth messaging protocol message (*Choksi – QoS policy is retrieved during the bandwidth allocation request – Column 6, Lines 60-67 and Column 7, Lines 5-15*).

Consider **claim 15**, as applied to claim 14 above, Choksi as modified by Sundar et al. further discloses requesting said bandwidth information from said quality of service management process, said load balancing management process, said session control process, and said network

management process using a fifth messaging protocol message (*Choksi – QoS policy is retrieved during the bandwidth allocation request – Column 6, Lines 60-67 and Column 7, Lines 5-15*).

Consider **claim 16**, as applied to claim 15 above, Choksi as modified by Sundar et al. further discloses that said first, second, third, fourth, and fifth messaging protocol messages each comprise at least one message selected from the group consisting of an access point status message, access point configuration message, a switch status message, a switch configuration message, a client status message, and a device discovery message (*Choksi – the messages request the status of the access points, hence gaining their status and configuration – Column 7, Lines 42-47; Sundar et al. – device discovery is used to determine available networks – Page 4, Paragraphs 0055-0057; Sundar et al. – BSCs determine statuses of access points to perform call connections – Page 6, Paragraph 0074*).

Consider **claim 18**, as applied to claim 17 above, Choksi as modified by Sundar et al. further discloses that the receiver is further adapted to receive said at least a first messaging protocol message by at least one of a second switch and a second access point (*Sundar et al. – the serving WLAN MSC informs the desired WWAN BSC of the handoff requests – Figure 12, Steps 1204-1210 – Page 6, Paragraph 0074*).

Consider **claim 19**, as applied to claim 18 above, Choksi as modified by Sundar et al. further discloses that the at least one controller is adapted to request bandwidth usage information from at least one of said first access point and said first switch using said at least a first messaging protocol (*Choksi – call admission request are single bandwidth requests – Column 7, Lines 42-48*).

Consider **claim 20**, as applied to claim 19 above, Choksi as modified by Sundar et al. further discloses that the at least one controller is adapted to de-allocate said allocated bandwidth using at least a third messaging protocol message subsequent to termination of said established communication session (*Sundar et al. – once the mobile has handed off to the WWAN, the WWAN notifies the WLAN MSC that it may clear the resources previously allocated for the mobile – Figure 12, steps 1226-1228 – Page 6, Paragraph 0074*).

Consider **claim 21**, as applied to claim 20 above, Choksi as modified by Sundar et al. further discloses that the at least one controller is adapted to send said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and said first access point (*Sundar et al. – once the mobile has handed off to the WWAN, the WWAN notifies the WLAN MSC that it may clear the resources previously allocated for the mobile – Figure 12, steps 1226-1228 – Page 6, Paragraph 0074*).

Consider **claim 22**, as applied to claim 21 above, Choksi as modified by Sundar et al. further discloses that the receiver is adapted to receive bandwidth information from at least one of a quality of service management process, a load balancing management process, a session control process, and a network management process using at least a fourth messaging protocol message (*Choksi – QoS policy is retrieved during the bandwidth allocation request – Column 6, Lines 60-67 and Column 7, Lines 5-15*).

Consider **claim 23**, as applied to claim 22 above, Choksi as modified by Sundar et al. further discloses that at least one controller is adapted to request said bandwidth information from said quality of service management process, said load balancing management process, said session control process, and said network management process using a fifth messaging protocol

Art Unit: 2617

message (*Choksi – QoS policy is retrieved during the bandwidth allocation request – Column 6, Lines 60-67 and Column 7, Lines 5-15*).

Consider **claim 24**, as applied to claim 23 above, Choksi as modified by Sundar et al. further discloses that said first, second, third, fourth, and fifth messaging protocol messages each comprise at least one message selected from the group consisting of an access point status message, access point configuration message, a switch status message, a switch configuration message, a client status message, and a device discovery message (*Choksi – the messages request the status of the access points, hence gaining their status and configuration – Column 7, Lines 42-47; Sundar et al. – device discovery is used to determine available networks – Page 4, Paragraphs 0055-0057; Sundar et al. – BSCs determine statuses of access points to perform call connections – Page 6, Paragraph 0074*).

Consider **claim 25**, as applied to claim 23 above, Choksi as modified by Sundar et al. further discloses that at least one controller is a bandwidth management controller, a quality of service controller, a load balancing controller, a session controller, and a network management controller (*Choksi – Column 4, Lines 18-46*).

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2617

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

2. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

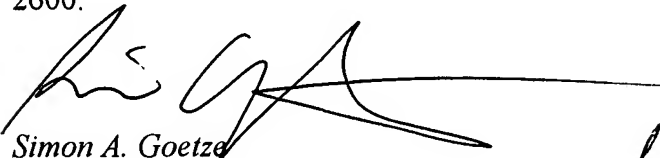
3. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Simon A. Goetze whose telephone number is (571) 270-1113. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm and Friday from 7:30am to 4:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2617


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.



Simon A. Goetze
S.A.G./sag

May 17, 2007



NICK CORSARO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600